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Research Article

**KNOWLEDGE, ATTITUDE AND PRACTICES REGARDING
SAFETY, TRANSMISSION AND RISK & PREVENTIVE
FACTORS OF HEPATITIS B IN JUNIOR DOCTORS IN
PAKISTAN****Abeera Ejaz, Kainat Abid, Muhammad Usman, Azhar Hussain**
Ameer Ud Din Medical College, Lahore**Article Received:** February 2020**Accepted:** March 2020**Published:** April 2020**Abstract:**

Background: Hepatitis B is the disease of liver caused by a virus (HBV) that can lead to cirrhosis of liver and hepatocellular carcinoma (HCC). In this study we studied and compared knowledge, attitude and practices regarding safety, transmission of Hepatitis B in junior doctors.

Methods: This descriptive cross sectional study was conducted in Lahore General Hospital, Lahore, Pakistan started from April 2019 and completed in August 2019. Our study subjects were junior doctors and paramedical staff. 204 people were engaged in our study after being explained with the whole study process and informed consent from them.

Results: We studied on a population of 204. 84 (41.2%) were males and 120 (58.8%) were females. 196 (96.1%) of our total subjects knew that Hepatitis transmits from exposure to blood or blood products. 192 (94.1%) knew that all children do need Hepatitis B vaccine. About protection from Hepatitis B by wearing gloves, 179 (87.7%) had opinion that it does protect. 146 (71.6%) participants thought that Hepatitis B is a contagious disease, 53 (26.0%) had idea as hepatitis not being a contagious disease. 175 (85.8%) subjects had their perspective as blood test is the only way to rule out if the person is having Hepatitis B or not. 202 (99.0%) said that the safe disposal of needles is important in control of Hepatitis. 191 (93.6%) of population knew that Hepatitis can cause serious liver disease. 174 (85.3%) subjects said that Hepatitis B can cause liver cirrhosis. 158 (77.5%) said that Hepatitis B can cause Liver Cancer. 176 (86.3%) knew that death can be caused by Hepatitis B. 157 (77.0%) subjects said that there is a treatment available for Hepatitis B. 167 (81.9%) were vaccinated against Hepatitis B. 175 (85.8%) had concept about booster dose. The families of 139 (68.1%) had screening for Hepatitis B.

Conclusions: Our study population had knowledge about the transmission and various risks and preventive factors of Hepatitis B

Keywords: Hepatitis B, Knowledge and attitude, Junior Doctors.

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INTRODUCTION:

Hepatitis B is the disease of liver caused by a virus (HBV) that can lead to cirrhosis of liver and hepatocellular carcinoma (HCC). It have infected up to two billion people worldwide, 4%-6% of the globally infected people are chronic carriers, reported by World Health Organization (WHO)[1]. Hepatitis B infection annual mortality rate is more than one million[2].

Hepatitis B virus belongs to hantaviruses family. It comprises of partially double stranded circular DNA genome with almost 3200 bases and four overlapping open reading frames (ORFs): pre-S/S (surface proteins), pre-C/C(pre-core/core), X (transcriptional co-activator) and P (DNA polymerase) [3].

HBV infection varies among individuals depending both on the host and the viral factors. It is also reported that some of the people having acute infection usually present with no defined symptoms while others can develop Acute Liver Failure leading to death. In Acute infection HBsAg that is the surface antigen, immunoglobulin M antibody, the core antigen HBeAg are present. HBeAg is the marker of increased viral replication which is usually seen in the initial phase in which the patient's body fluids are highly contagious. 5% of the HBV infected individuals develop chronic infection that is indicated by the persistent presence of HBsAg for at least 6 months, with or without concomitant HBeAg. It is the indicator for the development of chronic liver disease. This CLD can lead to Hepatocellular carcinoma in 20%-30% of the adults. Sometimes the individuals show negative HBsAg in serology while they still have developed Hepatitis B infection. This kind of presentation is known as Occult HBV infection. [4,5]

Increasing maternal viral load has the ability to predict intrauterine HBV transmission. Vaginal delivery increased risk of HBV transmission in infants compared with cesarean section [6].

Hepatitis B high -risk groups are men who have sex with men, close household contact, needle sharing, occupational(healthcare), intravenous drug users, prisoners and sex workers [7].

The most common sources of HBV infections are body fluids via percutaneous or per-mucosal exposure. In these days, blood transfusion and organ transplant are not as common for transmission as unprotected sexual contact [8]. The first detectable markers in acute HBV infection are HBsAg and IgM [9]. Identification of high-risk individuals, providing them accurate information and counselling them is one step in preventing them getting disease.

Safe sex practices, including minimizing the number of sex partners and using barrier protection, can reduce the risk of HBV infections. Hepatitis B immunoglobulin (HBIG) and Hepatitis B (HB) vaccine are used for preventing hepatitis B. Pre-exposure vaccination should be given to the high-risk patients and those unvaccinated patients who present with sexually transmitted diseases (STDs). Post-exposure prophylaxis is given with HBIG or HB and both can be given [10].

MATERIALS AND METHODS:

This study was conducted in Lahore General Hospital, Lahore, Pakistan. It was started from April 2019 and completed in August 2019. Our study subjects were junior doctors and paramedical staff. We explained the whole process of our study to the subjects. Informed consent was taken. 204 people were engaged in our study. It was a descriptive cross-sectional study.

SPSS version 22 was used for the data entry and data analysis. P value less than 0.05 was considered statistically significant. Frequencies of different qualitative variables like gender, occupation etc. were calculated. Mean and standard deviation for quantitative variable like age etc. were found. Frequencies were calculated about awareness of various risk factors, mode of transmission and prevention of Hepatitis B in our subjects.

RESULTS:

We studied on a population of 204. 84 (41.2%) were males and 120 (58.8%) were females. Our study population belong to different age groups i.e. 71 (34.8%) were between 15-25 years of age, 120 (58.8%) were from 25-35 years of age and the other 13 (6.4%) were more than 35 years of age.

All of our subjects knew about Hepatitis B vaccine. 146 (71.6%) participants thought that Hepatitis B is a contagious disease, 53 (26.0%) had idea as hepatitis not being a contagious disease while 5 (2.5%) had no idea if this is a contagious disease or not. 175 (85.8%) subjects had their perspective as blood test is the only way to rule out if the person is having Hepatitis B or not, 21 (10.3%) had their opinion as the blood test is not the only way to rule out Hepatitis B while 8 (3.9%) didn't know about it.

196 (96.1%) of our total subjects knew that Hepatitis transmits from exposure to blood or blood products, 3 (1.5%) of them said that it doesn't transmit this way while 5 (2.5%) had no opinion regarding this.

163 (79.9%) knew about Hepatitis being transmitted through unsafe sexual contact, 36 (17.6%) viewed unsafe sexual contact not as a cause of its transmission while 5 (2.5%) had no idea about its transmission through unsafe sexual contact.

About reuse of syringes as an important mode of transmission of Hepatitis B, 202 (99.0%) of the total considered it a cause of transmission, 1 (0.5%) didn't consider it as a mode of transmission while the other 1 (0.5%) had no consideration for it.

190 (93.1%) thought that Hepatitis B can be transmitted during surgery or dental procedures, 10 (4.9%) said that this is not the source for transmission while 4 (2.0%) didn't know. 183 (89.7%) said it can be transmitted through dialysis, 7 (3.4%) said that it can't be transmitted through dialysis while 14 (6.9%) had no idea about its transmission this way.

196 (96.1%) subjects knew about the prevention of Hepatitis B through vaccination, 5 (2.5%) thought that it can't be prevented by vaccine while 2 (1.0%) didn't know about it. 87 (42.6%) thought that Hepatitis B vaccine confers lifelong immunity, 103 (50.5%) didn't consider Hepatitis B vaccine to confer a lifelong immunity against it while the other 14 (6.9%) had no idea.

192 (94.1%) knew that all children do need Hepatitis B vaccine, 9 (4.4%) said that not all children need Hepatitis B vaccine, while 3 (1.5%) didn't know about child vaccine. About protection from Hepatitis B by wearing gloves, 179 (87.7%) had opinion that it does protect, 17 (8.3%) said that it can't protect while 8 (3.9%) didn't know anything about gloves protection against Hepatitis B.

202 (99.0%) said that the safe disposal of needles is important in control of Hepatitis B, 1 (0.5%) didn't consider it important in control while 1 (0.5%) had no idea about the control by safe disposal of needles. 191 (93.6%) of population knew that Hepatitis can cause serious liver disease, 10 (4.9%) had concept as Hepatitis B can't cause serious liver disease while 3 (1.5%) didn't know.

174 (85.3%) subjects said that Hepatitis B can cause liver cirrhosis, 23 (11.3%) said that it can't cause cirrhosis while 7 (3.4%) didn't know if it causes cirrhosis or not. 158 (77.5%) said that Hepatitis B can cause Liver Cancer, 29 (14.2%) marked liver cancer not being caused by Hepatitis B while 16 (7.8%) didn't know. 176 (86.3%) knew that death can be caused by Hepatitis B, 20 (9.8%) said that death can't be caused by it while the other 8 (3.9%) had no idea if death can be caused or not.

157 (77.0%) subjects said that there is a treatment available for Hepatitis B, 43 (21.1%) said that there is no treatment available while 3 (1.5%) didn't know. 167 (81.9%) were vaccinated against Hepatitis B, 33 (16.2%) were not vaccinated while the other 4 (2.0%) didn't know if they are vaccinated or not.

32 (15.7%) have received 1 vaccine, 45 (22.1%) have received 2 vaccines, 89 (43.6%) have received 3 vaccines, 37 (18.1%) received no vaccines while the other 1 (0.5%) don't remember the number of vaccines they received. 59 (28.9%) of our subjects have monitored their antibody level, 137 (67.2%) didn't monitor their antibody level while the 8 (3.4%) didn't know about the antibody monitoring.

175 (85.8%) had concept about booster dose, 21 (10.3%) had concept of no booster dose while 8 (3.4%) didn't know about booster dose.

The families of 139 (68.1%) had screening for Hepatitis B, families of 60 (29.4%) had no screening while 4 (2.0%) didn't know about their family screening.

DISCUSSION:

Pathogenesis of hepatitis B is immune mediated disease as HBV is a non-cytopathic virus. Adaptive immune response is responsible for all of the viral liver pathologies. HBV-encoded antigens are expressed at the hepatocyte surface which are recognized CD8+ cytotoxic T lymphocytes specific for a dominant T cell epitope within the major envelope polypeptide and by envelope-specific antibodies. These interactions lead to cell destruction in liver. (11). Clearance of HBV is T cell mediated which is vigorous in acutely infected patient but in chronically affected patients the response become weaker. This leads to hepatocellular injury. Persistent infection is characterized by chronic liver cell injury, regeneration, inflammation, widespread DNA damage, and insertional deregulation of cellular growth control genes which lead to cirrhosis of the liver and hepatocellular carcinoma.

Of our studied population 146 (71.6%) thought that Hepatitis B is a contagious disease. 175 (85.8%) of our Subjects had their perspective as Blood test is the only way to rule out if the person is having Hepatitis B or not. 164 (80.4%) of our total population said that Hepatitis B spreads more easily than AIDS. 196 (96.1%) of our total subjects knew that Hepatitis transmits from exposure to blood or blood products. Of the total 204, 163 (79.9%) knew about Hepatitis being transmitted through unsafe sexual contact. About reuse of syringes as an important mode of transmission of Hepatitis B, 202 (99.0%) of the total considered it a cause of transmission. 190 (93.1%) thought that Hepatitis B can be transmitted during surgery or dental procedures. 183 (89.7%) said it can be transmitted through dialysis. 196 (96.1%) of our total subjects knew about the prevention of Hepatitis B through vaccination. Of total 204 subjects 87 (42.6%) thought that Hepatitis B vaccine confers lifelong

immunity.192 (94.1%) knew that all children do need Hepatitis B vaccine. About protection from Hepatitis B by wearing gloves, 179 (87.7%) had opinion that it does protect. Of total 204, 202 (99.0%) said that the safe disposal of needles is important in control of Hepatitis B. 191 (93.6%) of population knew that Hepatitis can cause serious liver disease.174 (85.3%) of our subjects said that Hepatitis B can cause liver cirrhosis. 158 (77.5%) said that hepatitis B can cause Liver Cancer. Of the total population 176 (86.3%) knew that death can be caused by Hepatitis B.157 (77.0%) of our subjects said that there is a treatment available for Hepatitis B. 167 (81.9%) of total 204 of our studied population were vaccinated against Hepatitis B.32 (15.7%) of 204 have received 1 vaccine, 45 (22.1%) have received 2 vaccines, 89 (43.6%) have received 3 vaccines. 59 (28.9%) of our subjects have monitored their antibody level.Of the total 204, 175 (85.8%) had concept about booster dose. The families of 139 (68.1%) had screening for Hepatitis B. Our studied population of 204 subjects lied in different age groups i.e 71 (34.8%) were between 15-25 years of age, 120 (58.8%) were from 25-35 years of age and the other 13 (6.4%) were more than 35 years of age.

CONCLUSIONS:

Our study population had knowledge about the transmission and various risks and preventive factors of Hepatitis B.

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